

ABSTRACT OF THE DISCLOSURE

*An optical fiber amplifier includes a length of silica optical fiber having a core doped with neodymium, a first cladding and a second cladding each with succeeding lower refractive indices, where the first cladding diameter is less than 10 times the diameter of the core. The doping concentration of the neodymium is chosen so that the small signal absorption for 816 nm light traveling within the core is less than 15 dB/m above the other fiber losses. The amplifier is optically pumped with one laser into the fiber core and with another laser into the first cladding.*